Sects. II-27—40,004—6-15-26.

Leg. (1929) Department.

SERIES.

G.O. No. 825-(P.H.)

DATED 27-3-1929

[Despatch Abstract.]

Cholera - Mangalore municipality - Report regarding action taken - Recorded.

D 2

U.F. 30.

DEPARTMENT

6-MAR 1929

DISTRICT TREASURY JOINT MADRAS

Received ..... 192 *Registered* 192

Subject.

10183

Cholera - Submitting report on the recent epidemic of in Mangalore Town.

****

ENCLOSURES.

No. One report and a Map.

Spare copies.....

C. No. 693-11 / 28-29.

Station Mangalore. *Dated the* 5th March 1929.

From (Name) M.R.Ry.Rao Sahib Nellikai Venkat Rao, Avergal.

(Designation) Chairman, Municipal Council, Mangalore.

To The Secretary to the Government of Madras,

Through

The Collector of South Kanara & Local-Self Government Department.

The Director of Public Health, Madras.

Sir,

With reference to rule 30 of the rules framed to regulate action to be taken to combat cholera in Municipalities issued in G.O.No.1604 P.H., dated 9th August 1928, I enclose herein a report on the recent epidemic of cholera in this town, and the preventive measures adopted.

N Dis 2286-29.

Forwarded.

Collector 8/3/29

Your obedient servant,

Chairman, M. C.

HDW

9/3/29

6.3.29

14/3

cp dlw 15/3/29. xd in 9D

74/15.3

Local Self Govt & Public Health Dept.

Dy Secy

Endorsement. No. 10183-182 P.N. dt 12/3/29

Referred to the director of Public Health for his remarks.

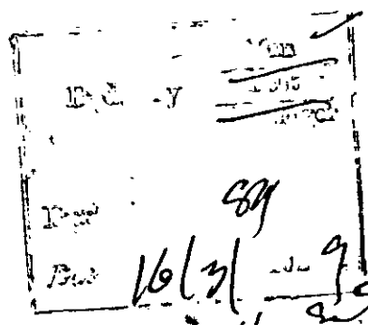
15/3

14.3.29.

14.3.29

Dy Secy to Govt.

The D.P.H. Ernakulam with copy P.C. & pp 3 to 11 in original ~~to be returned with Asst's letter below to be returned with reply~~.



16/3/ with

REPORT ON THE CHOLERA EPIDEMIC IN THE MANGALORE MUNICIPALITY DURING THE MONTHS OF NOV: DEC: 1928 AND JAN: FEB: 1929, AND THE MEASURES TAKEN FOR COMBATING IT.

****

I. ORIGIN: The first 3 cases of cholera which were admitted and treated in the Govt; Head Quarters Hospital were imported cases from the neighbouring villages such as Maroli, Pavoor & Periala. These cases proved fatal on the 14th & 16th of Nov:. The first indigenous case occured on 19-11-'28. The source of infection in this case could not be traced; neverthless it was quite evident that the infection was brought from the neighbouring coastal towns and villages, since the history of the subsequent cases proved that infection was brought from the neighbouring infected localities as Ullal, Maroli & Malpi et The consumption of large quantities of particular species of fish viz shell fish, mackerals and also crabs were partly responsible for this epidemic, since in several cases these set up the pre-monitary diarrhoea followed later on by symptoms of cholera. The disease was confined to the coastal areas of the town, Bolar & Boloor, the most congested parts of the area, being the worst affected. This is explained thus; that the area is occupied mostly by fisherman, businessmen and factory people who have all frequent intercourse with the neighbouring villages lying along the bank of the river Nethrvati as well as the sea-coast.

II. Preventive measures adopted:-

A. Special staff appointed:-

As per G.O.no: 1604 P.H. dated 9th aug 1928; the town consisting of 9 wards was divided into 4 circles comprising of 1 division and the following staff was appointed:-

(1) A medical officer an M.B.B.S., for inoculation & treatment of cholera cases admitted in the Isolation sheds, on Rs 70/-plus Rs 30/-

(2) A medical officer an L.M.P., for inoculation on Rs 60/-plus Rs 30

(3) 4 cholera Inspectors (2 of whom were qualified and the rest 2

(2) 4

were experienced sanitary & plague maintryes. Qualified hands were not available.) on Rs 50 plus 5 c.a.; Rs 40 plu Rs 25 plus 5 c.a. & Rs25 plus 5 c.a. per mensum respectively. Of the 2 qualified sanitary inspectors 1 had previous experience of cholera work and the other who had no such experience was posted to the routine ward work & in his place an experienced fully qualified sanitary inspector was posted for cholera duty.

(4) 4 cholera peons on Rs 12/- each for the 4 circles.

(5) 2 orderlies to the 2 medical officers on Rs 12 /- each.

(6) 1 male attendant & cook and 1 female attendant on Rs 22/8 each for the Isolation Hospital at Uruva.

(7) 10 thoties and 12 drain coolies on Rs 13/8 & Rs11/- respectively for the 4 circles.

(8) 1 male & 1 Female thoty on Rs 22/8 each for the Isolation Hospital

The entire staff worked directly under my supervision.

B. NOTIFICATION.

In accordance with sec: 284-4 & 288 & ~~289~~ (1) 83 of the District Municipalities Act 1920., enforced by the Chairman municipal council, all the medical practitioners including hakims & Ayurvedic Physicians were asked to report forthwith of cases of cholera that come to their notice. A similar notice to the public was published in the local papers and by beat of tom-tom.

C. ISOLATION.

Though isolation was not possible in every case every attempt was made to segregate a large number of both the infected & the contacts. In all 22 cases of cholera were admitted & treated in the sheds ~~and~~ of whom 18 were discharged completely cured and 4 died. ~~90~~ 90 % of the latter were brought in moribund conditions.

In addition to the 2 attendants & 2 thoties a cholera inspector was posted to supervise the work of the attendants.

D. Disinfection.

D. DISINFECTION.

All the pnivate scavenging lanes, streets, drains and public latrines were regularly disinfected with slaked lime and cresol. Rubbish in the infected localities were burnt on the spot. Special arrangements with the aid of conservancy and watering motor lorries were made for the prompt disposal of rubbish and night soil. Thoroug disinfection of the infected houses was made.

Sufficient stock of the following disinfectants was maintained:-

1. Bleaching powder.
2. Pottasium permanganate.
3. Cresol.
4. Slaked lime.

Necessary purchases as kerosine oil, saw-dust etc, were made with the permanant advance of Rs 50/- which was recouped every time it was spent. ~~A sum of~~

Section 290 of the D.M.Act of 1920. was enforced for the neces sary disinfection of the infected houses.

E. CHLORINATION.

Thorough and repeated chlorination of all the wells, private and public, was carried out with bleaching powder once a week.

F. PERSONAL PROPHYLAXIS :-

(1) Inoculation:-

This being the first time when anti-cholera inoculation was carried out in this town, there was every little response from the public at the beginning, but this was very soon overcome by persuation, short talks, lectures, articles in papers and by wide distribution of pamphlets and posters on the benefits of inoculatic with the result a record figure of about 16,000 inoculations were carried out. Almost all the heads of the schools, colleges, public offices, factories and other business concerns, not only responded to my requests but rendered all possible assistance in the inocula- tion campaign. I am more than ever convinced that without such suppo

such support and assistance it is highly impossible for any one, however zealous and earnest he may be, to carry out a successful campaign against an epidemic. In this connection I beg to say that the anti-cholera vaccine so promptly supplied by the Director of King Institute, Guindy, was of great use not only for this town but for the neighbouring villages and for the passing steamers. For instance the Taluq Board President of Mangalore and private practitioners of neighbouring villages and the commander of -- H. M. I. S. Palynuris which passed the port of Mangalore, urgently required a supply of vaccine which was duly supplied from my office

A statement of inoculations done is annexed herewith.

(2) Other preventive measures:- Distribution of preventive medicines:- Mistura Pro-Diarrhoea and Cholera tablets, with the necessary directions on the bottles, were freely distributed in all the affected localities for use in emergencies.

(3) Propaganda:- Vide para III.

(4) (a) Decomposed fish, vegetables and other foodstuffs were then and there destroyed. The sale of foodstuffs and eatables hawked in thoroughfares exposed to dust and flies were prohibited.

(b) All places of public resorts were closed during the epidemic, their licence being suspended by the Chairman, Municipal Council.

III. PROPAGANDA.

Short talks, magic lantern demonstations and lectures on the causes, symptoms, prophylaxis and treatment of cholera were delivered in different centres. Articles on cholera and the -- benefits of inoculation were published in the local vernacular papers. English and vernacular pamphlets and wall posters on the benifits of inoculation were printed and widely distributed.

IV. VITAL STATISTICS.

Daily, weekly and monthly reports of the number of attacks and deaths by cholera with my remarks and the action taken were submitted to the authorities concerned. A notice board for the information of the public was put up at my office noting the daily no: of attacks and deaths ward-war and the attacks & deaths up to date with the no: of inoculations conducted.

The following registers were maintained;-

1. Epidemic register of cholera.
2. Inoculation registers noting the names,ages,sexes brew & bottle nos: and reaction etc,.
3. Register noting the no: of wells chlorinated.
4. Register of cholera cases treated at the Isolation Hospital.

V. TREATMENT.

A full timed medical officer an M.B.B.S. was appointed to treat all cases admitted in the hospital. He was supplied with all the necessary medicines. Most of the cases were treated with Essential oils and some were treated with Bruschettin's curative vaccine. 22 were treated of whom 18 were cured and discharged and 4 died. In addition ~~the~~ to the medical officer ~~appointed~~ who was in charge of the Isolation Hospital,daily supervision was made by me. Free medical assistance was rendered by Dr. M.N.Pai,L.M.P., a municipal councillor who most willingly kept himself and his Dispensary at my disposal.

VI. PERSONAL OBSERVATIONS:-

Points of Epidemiological interest.

(1) Causes of the Epidemic;- Though the infection of cholera was brought from the neighbouring villages and this may be a sufficient cause for the spread of this disease yet the sale of a particular variety of fish as shell fish and mackerals as well as crabs was to a large extent responsible for the Epidemic. These mackerals are shallow sea-fish and shell fishes and crabs are from the river which is highly contaminated with the sewage and night soil from the town in general and factory latrines in particular and so it is quite

quite possible that these shell fishes and crabs harbour comma ~~bacill~~ bacilli and the infection is probably transmitted to men not so much by eating these fishes since they are fairly well cooked but by handling them, while washing and preparing before cooking. As is ~~alrea~~ already said several cases of cholera were traced to the consumption of shell fish and crabs which apparently caused at the outset mere digestive disturbances as diarrhoea and vomitting later (sometimes a week or even later) followed by symptoms of cholera.

The disease was not only confined to human beings but to certain animals and birds as well, as cats and crows were found dead in several places during the epidemic. Post-mortum was held on one of the crows by the Veterinary Surgeon who reported the cause of death to be acute gastro-enteritis. I believe this was a case of cholera. ~~and the~~ Crows have played an equal part as the flies in the dissemination of the disease since they invariably scrutinize their ~~prey~~ pickings on the cross iron bars over the wells and they often drop the entire thing into the wells if they dont appreciate them.

As shown in the spot map enclosed the disease was confined mostly to the unhealthy parts of the coastal area inhabited by poorer classes.

(2) Nature of the epidemic;-

The case mortality instead of being high at the outset was so during the ~~at~~ the ~~end~~ at the second and thierd months.

(3) Effects of Anti-Cholera inoculations;-

(a) Reactions;- Persons inoculated immediately ie from $\frac{1}{4}$ to $\frac{1}{2}$ or even 1 hour after full meals, had severe reaction as vomiting and sometimes purging with cold clammy sweats and feeble pulse. There were ~~8 cases~~ 8 such instances in a convent. Rest in bed and a drink of soda or hot coffee was all that was necessary to recover from ~~the~~ these effects. It may therefore be inferred that inoculation should not be done on a full stomach.

(b) In a few cases there were profuse swelling extending up to the wrist with emphysematous crackling noticed about a week after the

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the inoculation without any such reaction up till then. Boric fomentation and rest to the arm was enough to relieve the condition.

In all there were 186 attacks and 104 deaths of which only 3 attacks and 1 death were cases protected with the Anti-cholera innoculation.

26-2-'29.
Mangalore.

Municipal Health Officer.

10

Mangalore Municipality

Statement showing the attacks and deaths during the epidemic of Cholera

Month & year	Codialbail East- A M	A F	D M	D F	Golikatte A M	A F	D M	D F	Central A M	A F	D M	D F	Market A M	A F	D M	D F	Court- A M	A F	D M	D F	Cantonment A M	A F	D M	D F	Fort- A M	A F	D M	D F	Jeppu A M	A F	D M	D F	Codialbail West- A M	A F	D M	D F	Total A M	A F	D M	D F
1928. November	1	"	1	"	1	2	1	"	2	4	"	1	"	"	"	"	"	1	"	1	5	1	4	"	2	1	1	"	17	18	12	8	2	3	1	"	30	30	20	10
1928. December	3	4	1	4	"	"	"	"	2	"	1	1	"	"	"	"	"	3	"	2	1	2	1	1	"	"	"	"	16	11	9	6	2	4	1	4	24	24	13	18
1929. January	2	2	2	1	"	"	"	"	"	"	"	"	"	"	"	"	"	1	"	"	2	3	1	"	8	9	5	4	16	22	11	16	1	1	"	1	29	38	19	22
1929. February	2	"	1	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	1	2	"	"	1	"	1	"	1	3	"	"	"	"	"	"	5	5	2	"
Total	8	6	5	5	1	2	1	"	4	4	1	2	"	"	"	"	"	5	"	3	9	8	6	1	11	10	7	4	50	54	34	30	5	8	2	5	88	97	54	50

Municipal Health Office
Mangalore

Joseph
26/2
Municipal Health Officer

Statement of Anti-Cholera inoculations done in the Mangalore Municipality during the Epidemic in 1928-1929.

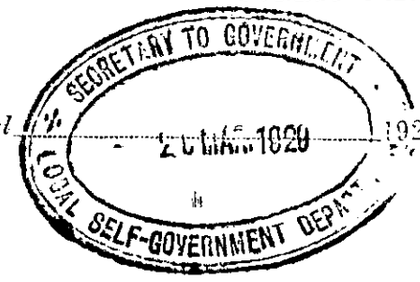
Balance of stock of vaccine on hand at the end of the Epidemic (in C.C.)	Quantity of vaccine received from the King Institute ---- during the epidemic under report (in C.C.)	Quantity of vaccine used. (in C.C)	Balance in hand at present (in C.C)	Number of persons inoculated during the Epidemic.		Cases of Cholera amongst		Remarks
				Those that reveived less than full dose	Those that recd the full dose of vaccine.	Those that recd ½ dose only	Those that recd. full dose.	
1240	15500	14260	100	4376	1297	1	1	1140 c.c. of vaccine was returned to the King Institute at the close of the epidemic.

Mangalore
Dated 26-2-1929.

Municipal Health Officer.

C.F. 30.

PUBLIC HEALTH DEPARTMENT.



Received 26 MAR 1929 192 . *Registered* 1207 192 .

Subject.

ENCLOSURES.
No .....
.....
Spare copies .....

R. No. 943-1/Epi.,

Station Madras , *Dated the* 21st March 192 9.

From (Name) Captain N.R. Ubhaya, D.P.H.,
(Designation) Ag. Director of Public Health.

To The Secretary to the Government of Madras,
Local Self-Government (Public Health) Department.

Sir,

In returning the papers received with Government Memo No.10183-1/D2 P.H., dated 15-3-1929, I have the honour to state that the measures taken by the Municipal Council for combating the epidemic are on the whole satisfactory.

I have the honour to be,
Sir,
Your most obedient servant,

N R Ubhaya
Captain D.P.H.
Ag. Director of Public Health, Madras.

S.K.V. 21-3.

15

Sectt. 11-5 (a)—40,006—9-11-26. (6)

L. S. (H) DEPARTMENT.

	Date.	Initials.
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When copied	27/3/29	
When examined		
When signed	27/3	
When despatched		

Cholera - Mangalore Municipality - report regarding action taken Recorded.

READ AGAIN G.O. No....., dated ..... 192 .

" " " " ..... " ..... 192 .

READ ALSO:—

C. No. 10183 From the C. M. C. Mangalore No. 693-11, dated 5-3-1929.

" " ..... " " Collector of S. Kanara No. Dis 2286-29, 8-3-1929.

1307 " " 12077 " " D-P-N R " 943-16/28; 21-3-1929.

ORDER. No. 825, dated 27.3.1929.

D.p 26/3 Sis

Recorded.

28.3.29.

26.3.29

M.N/3

D.E. by Ven / Rat

Dept. in L. 89

Date 27/3/1929.

L

The C. M. C. Mangalore /

The Collector of S. Kanara / Encl with copy of D.P.N's report

The D-P-N / 3 Encs.